WHAT IS CLAIMED IS:

1. An initiator explosive for detonating a second explosive comprising:
nanocrystalline silicon containing a plurality of pores; and
a solid state oxidant disposed within said pores.

2. The explosive of claim 1 wherein said solid-state oxidant comprises a nitrate salt.

3. The explosive of claim 3 wherein said nitrate is selected from the group consisting of sodium nitrate, potassium nitrate, ammonium nitrate, magnesium nitrate, calcium nitrate, and gadolinium nitrate.

4. The explosive of claim 1 wherein said solid-state oxidant comprises a perchlorate salt.

5. The explosive of claim 4 wherein said perchlorate salt is selected from the group consisting of sodium perchlorate, potassium perchlorate and lithium perchlorate.

6. The explosive of claim 1 wherein said solid-state oxidant comprises a fluoride salt.

7. The explosive of claim 6 wherein said fluoride salt is selected from the group consisting of potassium fluoride, potassium hexafluorophosphate, and sodium tetrafluoroborate.

8. The explosive of claim 1 wherein said solid state oxidant comprises a solid state oxidant selected from the group consisting of PETN, a metal azide, and TNT.

9. The explosive of claim 1 wherein said solid-state oxidant is baked into the pores of said porous nanocrystalline silicon.

10. The explosive of claim 1 wherein said nanocrystalline silicon comprises a nanowire.

11. The explosive of claim 1 wherein said nanocrystalline silicon comprises a thin film.

12. The explosive of claim 1 wherein said nanocrystalline silicon comprises a powder.

13. A silicon-based chemical sensor device for detecting the presence of a target analyte comprising:

a porous nanocrystalline substrate; and

gadolinium nitrate.

14. A method for detecting a target analyte comprising:

providing a porous nanocrystalline substrate;

selecting an oxidant;

combining the oxidant with the porous nanocrystalline substrate;

absorbing a predetermined amount of the target analyte on the porous nanocrystalline substrate;

igniting the porous nanocrystalline substrate containing the target analyte and the oxidant; and

measuring an emission spectrum for the presence of the target analyte.

15. The method of claim 14 further comprising providing a porous nanocrystalline substrate in the form of a thin film.

16. The method of claim 14 further comprising selecting a solid-state oxidant.

17. The method of claim 14 further comprising selecting the oxidant to be gadolinium nitrate.

18. The method of claim 14 further comprising baking the oxidant with the nanocrystalline substrate so that the oxidant is baked into pores of the porous nanocrystalline substrate.

19. The method of claim 14 further comprising absorbing from between approximately 1 and 10 micro liters.

20. The method of claim 14 further comprising igniting by resistively heating a silicon filament.

21. The method of claim 14 further comprising photographing the emission spectra.

22. The method of claim 21 further comprising subjecting the photograph to spectrometry analysis.

23. The method of claim 14 further comprising absorbing a predetermined amount of a solution containing the target analyte on the porous nanocrystalline substrate.

24. The method of claim 14 further comprising absorbing a predetermined amount of ambient gas containing the target analyte on the porous nanocrystalline substrate.

25. The method of claim 14 further comprising absorbing a predetermined amount of ambient liquid containing the target analyte on the porous nanocrystalline substrate.

26. The method of claim 14 further comprising absorbing a predetermined amount of ambient particulate matter containing the target analyte on the porous nanocrystalline substrate.

27. A method for initiating an explosive reaction comprising:

creating a bridge wire composed of porous silicon;

coupling the bridge wire to an explosive; and

heating the bridge wire.

28. A propulsion system for a MEMS device comprising:

at least one silicon-based explosive unit that includes a solid state oxidant wherein said explosive unit is configured to be a cap.